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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WINTER, JOHN M	
ART UNIT	PAPER NUMBER
3685	

NOTIFICATION DATE	DELIVERY MODE
05/13/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@sawyerlawgroup.com

Office Action Summary	Application No.	Applicant(s)	
	09/719,399	COLLBERG ET AL.	
	Examiner	Art Unit	
	JOHN M. WINTER	3685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,24,25,27,28,33-46,48 and 52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,24,25,27,28,33-46,48 and 52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-17, 24, 25, 27, 28, 33-46, 48, 52 are drawn towards a method of content verification with a recognizer process , classified in class 705 subclass 56.

II. Claims 23, 47, 49-51 and 53-54 are drawn towards watermarking to prevent unauthorized usage, classified in class 726 subclass 30.

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed in invention II does not require the particulars of the subcombination as claimed in inventions I such as a "recognizer process".

Examiner notes that is would be a burden to search multiple inventions given their separate status in the art as noted above. The requirement is deemed proper and therefore made FINAL.

Via paper filed on January 28,2010 a provisional election was made without traverse to prosecute the of Invention I, claims 1-17, 24, 25, 27, 28, 33-46, 48, 52. Affirmation of this election must be made by applicant in replying to this Office action. Claims 23, 47,

49-51 and 53-54 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Response to Arguments

3. The Applicants arguments filed on February 26, 2010 have been fully considered but are moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 24, 25-28,33-40 and 52 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

Based on Supreme Court precedent (See also *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) and recent Federal Circuit decisions, a §101 process must (1) be tied to a particular machine or apparatus (machine implemented); or (2) particularly transform a particular article to a different state or thing. In addition, the tie to a particular apparatus, for example, cannot be mere extra-solution activity. See *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

An example of a method claim that would not qualify as a statutory process would be a claim that recited purely mental steps.

To meet prong (1), the method step should positively recite the other statutory class (the thing or product) to which it is tied. This may be accomplished by having the claim positively recite the machine that accomplishes the method steps. Alternatively or to meet prong (2), the method step should positively recite identifying the material that is being changed to a different state or positively recite the subject matter that is being transformed.

In this particular case, claim 24 fails prong (1) because the "tie" (e.g. computer recognizer) is representative of extra-solution activity. Additionally, the claim(s) fail prong (2) because the method steps do not transform the underlying subject matter to a different state or thing.

5. Claims 25-28,33-40 and 52 are either dependant upon claim 24 or contain similar limitations and are rejected for at least the same reasons.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-17, 24, 25, 27, 28, 33-46, 48, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moskowitz et al. (US Patent 5,745,569) in view of Shur (US Patent 6,330,672) and further in view of Shear (US Patent 6,157,721).

8. As per claim 1, 24, 27, 33-40, and 52,

Moskowitz et al. ('569) discloses a computerized implemented method of watermarking a software object, wherein the computer performs the following functions comprising the steps of:

determining an input sequence; (Column 5, line 65 – column 6, line 8 [license corresponds to input sequence])

storing the watermark in an execution state of the software object within a memory, (column 6, lines 9-54)

Moskowitz et al. ('569) does not explicitly disclose wherein the execution state is the non-static state of the software object as it is being run on the computer with a particular input sequence, wherein the watermark is stored in the memory in a manner that the watermark is detectable by a computerized recognizer which examines the execution state of the software object when the software object is being run with the input sequence.

Shear ('721) discloses wherein the execution state is the non-static state of the software object as it is being run on the computer with a particular input sequence, wherein the watermark is stored in the memory in a manner that the watermark is detectable by a computerized recognizer which examines the execution state of the software object when the software object is being run with the input sequence.(Column 13, lines 4-29 –

Examiner notes that this has no patentable merit; a wherein clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim. (Texas Instruments Inc. v. International Trade Commission 26, USPQ2d 1010

(Fed. Cir. 1993); Griffin v. Bertina, 62 USPQ2d 1431 (Fed. Cir. 2002); Amazon.com Inc. v. Barnesandnoble.com Inc., 57 USPQ2d 1747 (CAFC 2001)) It would be obvious to one having ordinary skill in the art at the time of the invention to combine Moskowitz et al. ('569) method with Shear ('721)'s teaching in order to determine whether the content is original or pirated.

Examiner notes that the feature of "wherein the watermark is stored in the memory in a manner that the watermark is detectable by a computerized recognizer which examines the execution state of the software object when the software object is being run with the input sequence. " Is merely non-functional descriptive material and as such does not serve as a limitation on the claim. In other **words language that is not functionally interrelated with useful acts, structure, or properties of the claimed invention will not serve as a limitation**. See in re Gulak, 217 USPQ 401 (CAFC 1983), *ex parte Carver*, 227 USPQ 465 (BdPatApp& Int 1985) and *in re Lowry*, 32 USPQ2d 1031 (CAFC 1994)

Moskowitz et al. ('569) does not explicitly disclose determining a watermark. Shur ('672) discloses determining a watermark (Abstract). It would be obvious to one having ordinary skill in the art at the time of the invention to combine Moskowitz et al. ('569) method with Shur ('672)'s teaching in order to determine whether the content is original or pirated.

9. As per claim 2 and 42,

Moskowitz et al. ('569)discloses the method as claimed in claim 1

wherein the software object is a program or a piece of a program. (Abstract)

10. As per claim 3 and 41,

Moskowitz et al. ('569) discloses the method as claimed in claim 1,

wherein the watermark is detectable in the state of the software object formed by the current values held in at least one of: (a) at least one stack; (b) at least one heap; (c) at least one data register; and (d) at least one global variable; of the software object. (Column 6, lines 18-20)

11. As per claims 4, 44 and 46,

Moskowitz et al. ('569) discloses the method of claim 1

wherein the watermark is stored in an execution state of the software object whereby the input sequence is constructed which, when fed to an application of which the software object is a part, will make the software object enter a second state which is a representation of the watermark, the representation being validated or checked by examining the execution state of the software object. (column 6, lines 9-54). Examiner notes that A wherein clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim. (Texas Instruments Inc. v. International Trade Commission 26, USPQ2d 1010 (Fed. Cir. 1993); Griffin v. Bertina, 62 USPQ2d 1431 (Fed. Cir. 2002); Amazon.com Inc. v. Barnesandnoble.com Inc., 57 USPQ2d 1747 (CAFC 2001)

12. As per claim 5,

Moskowitz et al. ('569) discloses the method as claimed in claim 1, wherein the watermark is embedded in an execution trace of the software object whereby, as a special input is fed to the software object, an address/operator trace is monitored and, based on a property of the trace, the watermark is extracted. (column 6, lines 9-54)

13. As per claim 6,

Moskowitz et al. (' 569)discloses the method of claim 1,

Moskowitz et al. (' 569) does not specifically disclose "the watermark is embedded in a topology of a dynamically built graph structure"

Official Notice is taken that "the watermark is embedded in a topology of a dynamically built graph structure" is common and well known in prior art in reference to computer programs. It would have been obvious to one having ordinary skill in the art at the time the invention was made that the watermark is embedded in the topology of a dynamically built graph structure because this is a fundamental representation of a watermark.

14. As per claim 7,

Moskowitz et al. ('569) discloses the method as claimed in claim 6, Wherein the dynamically built graph structure is detectable in a data structure of the program column 6, lines 9-54)

15. As per claim 8,

Moskowitz et al. ('569) discloses the method of claim 1,

further comprising the step of building a computerized recognizer concurrently with the input sequence and the watermark. (Column 6, lines 9-32)

16. As per claim 9,

Moskowitz et al. ('569) discloses the method of claim 8

wherein the computerized recognizer is a function adapted to identify and extract the watermark from all other dynamic structures on a heap or stack.(Column 6, lines 9-32)

The Examiner notes that as written the term "all other dynamic structures on a heap or stack" comprises the entire program, as it is being run, even if data is read from a hard drive (such as a registration key) it will be stored in an allocated memory position in the heap or the stack.

17. As per claim 10,

Moskowitz et al. ('569) discloses the method of claim 8

wherein the watermark incorporates a marker that will allow the computerized recognizer to recognize it easily.(Column 6, lines 38-56)

Examiner notes that A wherein clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim. (Texas Instruments Inc. v. International Trade Commission 26, USPQ2d 1010 (Fed. Cir. 1993); Griffin v. Bertina,

62 USPQ2d 1431 (Fed. Cir. 2002); Amazon.com Inc. v. Barnesandnoble.com Inc., 57 USPQ2d 1747 (CAFC 2001)

18. As per claim 11,

Moskowitz et al. ('569) discloses the method of claim 8

the recognizer is retained separately from the program and whereby the recognizer inspects the state of the program(Column 6, lines 9-32)

19. As per claim 12,

Moskowitz et al. ('569) discloses the method of claim 8

Official Notice is taken that "wherein the computerized recognizer is dynamically linked with the program when it is checked for the existence of a watermark" is common and well known in prior art in reference to operating systems. It would have been obvious to one having ordinary skill in the art at the time the invention was made that the computerized recognizer is dynamically linked with the program when it is checked for the existence of a watermark in order to utilize memory more efficiently. The Examiner notes that it is common in many operating systems to dynamically link and unlink modules (libraries, drivers etc..) from the OS kernel to conserve the amount of memory used by the kernel.

20. As per claim 13 and 25,

Moskowitz et al. ('569) discloses the method of claim 1

the software object is a part of an application that is obfuscated or incorporates tamper-proofing code (Abstract)

21. As per claim 14,

Moskowitz et al. (' 569) discloses the method of claim 8,

wherein the computerized recognizer checks the watermark for a signature property. (Column 6, lines 38-56).

22. As per claim 15,

Moskowitz et al. ('569) discloses the method of claim 14

Official Notice is taken that "the signature property is evaluated by testing for a specific result from a hard computational problem." is common and well known in prior art in reference to digital security. It would have been obvious to one having ordinary skill in the art at the time the invention was made that the signature property is evaluated by testing for a specific result from a hard computational problem in order to make signature non trivial to crack. The Examiner notes that this feature is common to public key encryption (i.e. RSA).

23. As per claim 16 and 45,

Moskowitz et al. ('569) discloses the method of claim 14 including the step of creating a number having at least one numeric property which is embedded in the topology of the watermark whereby the signature property is evaluated by testing the at least one or more

numeric property.(Colunm 6, lines 38-56)

24. As per claim 17 and 28

Moskowitz et al. (' 569) discloses the method of claim 16

Official Notice is taken that "the signature property is evaluated by testing whether the number is a product of two primes" is common and well known in prior art in reference to digital security. It would have been obvious to one having ordinary skill in the art at the time the invention was made that the signature property is evaluated by testing whether n is the product of two primes order to make signature non trivial to crack. The Examiner notes that this feature is common to public key encryption (i.e. RSA).

25. As per claims 43 and 48,

Moskowitz et al. ('569) discloses the computer implemented method of claim 1, wherein no part of the execution state of the software object in which the watermark becomes detectable is visually or audibly apparent. (Column 6, lines 9-32). Examiner notes that A wherein clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim. (Texas Instruments Inc. v. International Trade Commission 26, USPQ2d 1010 (Fed. Cir. 1993); Griffin v. Bertina, 62 USPQ2d 1431 (Fed. Cir. 2002); Amazon.com Inc. v. Barnesandnoble.com Inc., 57 USPQ2d 1747 (CAFC 2001).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN M. WINTER whose telephone number is (571)272-6713. The examiner can normally be reached on M-F 8:30-6, 1st Fridays off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Calvin Hewitt can be reached on (571) 272-6709. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMW

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